

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 20-21 are canceled without prejudice or disclaimer.

Claims 1-19 are amended.

Listing of Claims:

1. (Currently Amended) A method for processing a metal-bearing sludge in cobalt removal that is performed in conjunction with zinc preparation process, ~~characterised in that wherein~~ the sludge produced in the metal separation process is classified based on the surface activity of sludge particles into a better and worse substance fraction, as the process is concerned, and the worse fraction is removed from the process, and the better fraction is returned to the process.

2. (Currently Amended) The method as defined in claim 1, ~~characterised in that wherein~~ the metal-bearing sludge is a product of a precipitation process.

3. (Currently Amended) The method as defined in claim 1 ~~or 2, characterised in that wherein~~ the metal-bearing sludge is settled in a metal separation reactor prior to the classification.

4. (Currently Amended) The method as defined in ~~any one of claims 1-3, characterised in that claim 1, wherein~~ the solid matter content in the reactor is adjusted to be in the range 10 - 200 g/l.

5. (Currently Amended) The method as defined in ~~any one of claims 1-4, characterised in that claim 1, wherein~~ the classification is performed based on the granular size of the sludge particles by dividing the sludge into a coarser and finer fraction.

6. (Currently Amended) The method as defined in ~~any one of claims 1-5, characterised in that claim 1, wherein~~ the classification is performed using a device based on the centrifugal force.

7. (Currently Amended) The method as defined in claim 6, ~~characterised in that wherein~~ the classification is performed using a hydrocyclone or a similar device.

8. (Currently Amended) The method as defined in ~~any one of claims 1-7, characterised in that claim 1, wherein~~ the underflow of the classification device is a worse fraction from the standpoint of the process.

9. (Currently Amended) The method as defined in ~~any one of claims 1-8, characterised in that claim 1, wherein~~ the overflow of the classification device is a better fraction from the standpoint of the process.

10. (Currently Amended) The method as defined in ~~any one of claims 1-9, characterised in that claim 1, wherein~~ the fraction that is worse from the standpoint of the process contains mainly coarse fraction.

11. (Currently Amended) The method as defined in ~~any one of claims 1-10, characterised in that claim 1, wherein~~ the fraction that is better from the standpoint of the process contains mainly fine fraction.

12. (Currently Amended) The method as defined in ~~any one of claims 1-11, characterised in that claim 1, wherein~~ the classification is performed in batches or continuously.

13. (Currently Amended) An apparatus for processing a metal-bearing sludge in cobalt removal that is performed in conjunction with zinc preparation process including one or more metal separation reactors (11, 12), a feeding device (18) for introducing raw material into the metal separation reactor (11, 12) and a junction line (19) for removing the sludge produced in the metal separation from the reactor (11, 12), ~~characterised in that~~ wherein the apparatus includes a classification device (14) which is arranged in conjunction with the pipe extending from the metal separation reactor (11, 12) and which is arranged for classifying the sludge (13) based on the surface activity of sludge particles into a better (15) and a worse (17) substance fraction, as the process is concerned, and recycling means (15) for returning the better substance fraction to the metal separation reactor (11, 12), and means for removing the worse substance fraction (17) from the reactor.

14. (Currently Amended) The apparatus as defined in claim 13, ~~characterised in that~~ wherein the classification device (14) is placed substantially in conjunction with the metal separation reactor (11, 12) for removing the sludge settled on the bottom from the bottom of the reactor (11, 12).

15. (Currently Amended) The apparatus as defined in claim 13 or 14, ~~characterised in that~~ wherein the classification device (14) is based on the centrifugal force.

16. (Currently Amended) The apparatus as defined in claim 15, ~~characterised in that~~ the classification device (14) is a hydrocyclone or a similar device.

17. The apparatus as defined in ~~any one of claims 13-16, characterised in that claim 13, wherein~~ the classification device (14) is arranged to function in such a manner that the underflow (17) of the device is the worse fraction from the standpoint of the process.

18. (Currently Amended) The apparatus as defined in ~~any one of claims 13-17, characterised in that claim 13, wherein~~ the classification device (14) is arranged to function in such a manner that the overflow (15) of the device is the better fraction from the standpoint of the process.

19. (Currently Amended) The apparatus as defined in ~~any one of claims 13-18, characterised in that claim 13, wherein~~ the classification device (14) is arranged to function in batches continuously.